g/L), glucose (12.87 g/L). The effect of orange molasses concentration (7%, 10%, 12%) on SCP production was conducted in 1000 ml flasks cultivated in a vibrating shaking incubator at 30°C, pH 5.5 for 72h. The initial amount of C. krusei for each concentration was 2.05±0.11 Log CFU/ml. At 0, 24, 48 and 72 hours chemical and microbiological analysis were carried out. Cell dry weight of cultures was analyzed by centrifuging, washing the pellet and drying at 105°C to constant mass. Protein content in drying cells was measured and sucrose, fructose and glucose were analyzed using enzymatic assay. For the yeast count Dichloran Rose-Bengal Chloramphenicol Agar plates were used. After 72 hours the yeast reached: 7.90 Log CFU/ml at 7%, 7.09 Log CFU/ml at 10% and 6.80 Log CFU/ml at 12%. Cell dry weight was 3.15 g/L at 7%, 7.65 g/L at 10% and 4.16 g/L at 12% and the protein content in dry cells of the strain was 37.55% on Dry Matter - DM, 30.42% DM and 34.02% DM respectively. These results suggested that C. krusei might be applied effectively to produce SCP using orange molasses as a low-cost substrate. Further investigations are currently underway.

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P-158

Nutritional traits and phenolic content of dried Olive Cake from three different cultivars of Olea Europea grown in Sicily (Italy) for livestock feed

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Olive tree culture has a great economic and social importance in the Mediterranean area. In addition olive oil industry generates large amounts of by-products such as olive cake, vegetation water, twigs and leaves. Olive Cake (OC) has a little economic value and always it is used as animal feed. Aim of this work was to characterize three varieties of stoned and dried olive cake (Biancolilla, Cerasuola and Nocellara) cultivated in the same area (Trapani, Sicily, Italy), from the 2012-2013 campaign, and milled in the same oil-mill. In this regards were quantified: moisture, ash, crude protein (CP), ether extract (EE), crude fiber (CF), neutral detergent fibre (NDF), acid detergent fibre (ADF) and sulphuric acid lignin (ADL), total extractable polyphenols (TEPP) and the degree of acidity. The results do not show significant differences in the three varieties. Protein content of the olive cake varied from 7.65±0.54% DM (Cerasuola) to 9.05±0.14% DM (Nocellara). Ash content varied from 4.04±0.14% DM (Biancolilla) to 5.00±0.96% DM (Nocellara). The use of stoned olive cake determines low values of ADL in the range of 15.95±0.85% DM (Cerasuola) to 16.90±0.12% DM (Nocellara) compared to samples with kernel. This result is important because the lignin is indigestible and therefore this product is better for the ruminant nutrition. However, an improved processing could lower further the lignin value. The analysis of TEPP showed values between 4.58±0.66 DM (Biancolilla) ‚Äì 6.00±1.22 DM (Cerasuola). These values are not very high because probably the polyphenols are highly sensitive to increased of temperature and light. The phenolic compounds in olives are recognized as potentially bioactives and may have antioxidant and therapeutic properties. OC is considered a rich source of phenolic compounds with a wide array of biological activities, then, it could be very important to find a conservative drying process. The amount of crude lipids, from 29.05±3.86% DM Cerasuola to 29.62±3.01% DM Nocellara, is another important result of these varieties since the values are much higher than the data present in the literature. A similar product can be considered of great interest in animal feed industry, although the stoned and dried processes should be optimized to improve and preserve its nutritive and functional values.

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P-159

Farming insects for feeding pigs: constraints and opportunities

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Farmed insects are among novel protein sources for pig feeding. In Europe, insect producers and pig breeders have to comply with rather complex rules and legal requirements, mainly related to the feed (or "substrate) fed to the insects. Annex III of Regulation (EC) 767/2009 lists a number of materials that are prohibited as substrate for insects, such as feces and "household waste". Substrates have to comply also with EU regulations on animal proteins (Regulation 1069/2009 and the implementing 142/2011): according to these regulations, some (animal protein) sources such as manure, gut content, dead-in-shell poultry, and fallen stock are prohibited as substrate for insects. Insects are expected to be increasingly used in Europe as protein replacers in animal nutrition, and the potential species for use in pig